

PAPER CODE = 6478

Note : Four possible answers A, B, C and D to each question are given. The choice which you think is correct, fill that circle in front of that question with Marker or Pen ink in the answer-book. Cutting or filling two or more circles will result in zero mark in that question.

1-1	Fringe spacing increases if we use : (A) Red light (B) Blue light (C) Yellow light (D) Green light
2	The expression for centripetal force is given by : (A) $\frac{mv^2}{r^2}$ (B) $\frac{m^2v^2}{r}$ (C) $\frac{m^2v^2}{r^2}$ (D) $mr\omega^2$
3	Rocket ejects the burnt gasses at a speed of over (consuming fuel at rate of 10000 kg / s) : (A) 4000 m/s (B) 400 m/s (C) 4000 cm/s (D) 400 cm/s
4	Distance between adjacent node and antinode is : (A) λ (B) $\frac{\lambda}{2}$ (C) $\frac{\lambda}{4}$ (D) $\frac{\lambda}{3}$
5	Equation of continuity gives the conservation of the : (A) Mass (B) Energy (C) Speed (D) Volume
6	Which pair has same unit : (A) Work and power (B) Momentum and impulse (C) Force and torque (D) Torque and power
7	Efficiency of diesel engine is : (A) 25% to 30% (B) 30% to 35% (C) 35% to 40% (D) 40% to 50%
8	The ratio between orbital velocity and escape velocity is : (A) 1 (B) $\frac{1}{2}$ (C) $\sqrt{\frac{1}{2}}$ (D) $\sqrt{2}$
9	Types of wave used in sonar are : (A) Sound waves (B) Light waves (C) Heat waves (D) Water waves
10	The quantity 1 (km) ² is equal to : (A) $1 \times 10^6 m^2$ (B) $1 \times 10^5 m^2$ (C) $1 \times 10^7 m^2$ (D) $1 \times 10^4 m^2$
11	1 torr is equal to : (A) $133.3 Nm^{-2}$ (B) $133.3 Nm^2$ (C) $133.3 Nm$ (D) $133.3 N^2m$
12	If R_x and R_y both are negative then resultant lies in the quadrant : (A) 1st (B) 2nd (C) 3rd (D) 4th
13	Product of number of rulings “N” and the order of diffraction “m” is equal to : (A) Resolving power (B) Magnification (C) Near point (D) Magnifying power
14	In order to double period of a simple pendulum the length of the pendulum should be increased by : (A) Four times (B) Three times (C) Two times (D) Eight times
15	Difference between C_p and C_v is equal to : (A) Avogadro's number (B) Planck's constant (C) Universal gas constant (D) Boltzman's constant
16	Ratio of disk velocity to hoop velocity (in case of rotational kinetic energy) is : (A) $\sqrt{\frac{4}{3}}$ (B) $\frac{1}{2}$ (C) 2 (D) $\sqrt{\frac{3}{4}}$
17	Cross product of $\hat{j} \times \hat{k}$ is : (A) Zero (B) 1 (C) \hat{i} (D) $-\hat{i}$